2. (Amended) The method of claim 1 wherein said moving said reference voltage from said first voltage level to said second voltage level takes place over a period of time that is on the order of the one-half the minimum time said received voltage level is expected to remain in one digital state.

3. The method of claim 2 further comprising:

moving said reference voltage from said second voltage level to said first voltage level wherein said first voltage level is closer to said received voltage level than said second voltage level.

4. A method, comprising:

comparing a parameter of an input signal to a parameter of a reference to determine a logical state of said input signal; and,

adjusting said parameter of said reference to reduce a difference between said parameter of said reference and said parameter of said input signal.

5. The method of claim 4 wherein said difference between said parameter of said reference and said parameter of said input signal maintains a nonzero minimum difference.

6. A method, comprising:

comparing a parameter of an input signal to a parameter of a reference to determine a logical state of said input signal wherein said parameter of said input signal has a nominal value representing a logical low and a nominal value representing a logical high; and,

adjusting said parameter of said reference to reduce a difference between said parameter of said reference and said parameter of said input signal and said parameter of said reference signal stays between said nominal value representing said logical low and said nominal value representing said logical high.

7. The method of claim 6 wherein said parameter of said reference is adjusted over a period of time that greater than 0.25 and less than 1.5 times the minimum expected period of time that said input signal will remain in a single logical state.

8. A method of receiving a digital signal, comprising:

comparing said digital signal to a reference voltage;

determining when said digital signal has changed from being greater than said reference voltage to being less than said reference voltage; and,

reducing said reference voltage after said digital signal has changed from being greater than said reference voltage to being less than said reference voltage.

9. The method of claim 8 wherein said reference voltage is reduced over a period of time that is greater than an expected period of time for said digital signal to change from one digital state to another.

10. A method of receiving a digital signal, comprising:

comparing said digital signal to a reference voltage;

determining when said digital signal has changed from being less than said reference voltage to being greater than said reference voltage; and,

increasing said reference voltage after said digital signal has changed from being less than said reference voltage to being greater than said reference voltage.

11. The method of claim 10 wherein said reference voltage is increased over a period of time that is greater than an expected period of time for said digital signal to change from one digital state to another.

12. A method, comprising:

adjusting a reference between a first nominal reference level and a second nominal reference level;

adjusting said reference between said second nominal reference level and said first nominal reference level;

comparing a signal to said first nominal reference level when said signal is closer to said first nominal reference level than said second nominal reference level; and,

comparing said signal to said second nominal reference level when said signal is closer to said second nominal reference level than said first nominal reference level.

13. The method of claim 12 wherein said steps of comparing are used to initiate said steps of adjusting so that said reference becomes closer to said first nominal reference level after said signal has crossed said second nominal reference level and so that said reference becomes closer to said second nominal reference level after said signal has crossed said first nominal reference level.

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14. (Amended) A method of controlling a reference voltage, comprising:

tracking an input voltage with said reference voltage such that the voltage difference between an electrical high level of the input voltage and said reference voltage is increased by the change in said input signal as said input signal transitions from an electrical low level to said electrical high level and the voltage difference between said electrical high level and said reference voltage is decreased by increasing said reference voltage after said input signal transitions.

15. (Amended) A method of controlling a reference voltage, comprising:

tracking an input voltage with said reference voltage such that the voltage difference between an electrical low level of the input voltage and said reference voltage is increased by the change in said input signal as said input signal transitions from an electrical high level to said electrical low level and the voltage difference between said electrical low level and said reference voltage is decreased by decreasing said reference voltage after said input signal transitions.

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16. (Amended) An apparatus, comprising:

an input voltage;

a reference voltage; and,

means for changing said reference voltage to track said input voltage such that the voltage difference between an electrical high level of the input voltage and said reference voltage is increased by the change in said input signal as said input signal transitions from an electrical low level to said electrical high level and the voltage difference between said electrical high level and said reference voltage is decreased by increasing said reference voltage after said input signal transitions.

17. (Amended) An apparatus, comprising:

an input voltage;

a reference voltage; and,

means for changing said reference voltage to track said input voltage such that the voltage difference between an electrical low level of the input voltage and said reference voltage is increased by the change in said input signal as said input signal transitions from an electrical high level to said electrical low level and the voltage difference between said electrical low level and said reference voltage is decreased by decreasing said reference voltage after said input signal transitions.

18. (Amended) A circuit, comprising:

a reference voltage;

a received voltage having a received voltage level; and,

means for moving said reference voltage from a first voltage level to a second voltage level wherein said second voltage level is closer to said received voltage level than said first voltage level and wherein said reference voltage is compared to said received voltage level to determine a digital state of said received voltage level.

19. (Amended) A circuit comprising:

a differential receiver that compares an input signal and a reference signal to determine a digital state for said input signal; and,

a reference signal control responsive to said differential receiver that adjusts said reference signal over a period of time to approach said input signal.

20. The circuit of claim 19 wherein said reference signal control comprises:

a saturating counter wherein a count direction of said counter is responsive to said differential receiver; and,

an analog MUX responsive to said saturating counter that selects one of a plurality of input voltages and outputs that one of said plurality of voltages to be used as said reference signal.

21. The circuit of claim 20 wherein said plurality of voltages are generated by a resistive ladder.

22. The circuit of claim 20 wherein said saturating counter is clocked by a clock signal having a period that is much less than the minimum expected time for said input signal to remain in one logical state.

REMARKS

1. This paper is responsive to the Office Action mailed May 8, 2002. Reconsideration and further examination is respectfully requested. Claims 1, 2, 14-19 have been amended. No claims have been cancelled. Claims 1-22 remain. No new matter has been added.

2. A new oath was required because of an apparent typo in the citizenship of the first inventor. A new oath is included with this Office Action.